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Valvular Heart Disease

CLINICAL OUTCOMES AMONG PATIENTS WITH LOW FLOW, LOW GRADIENT, SEVERE AORTIC STENOSIS WITH EITHER PRESERVED OR REDUCED EJECTION FRACTION UNDERGOING TRANSCATHETER AORTIC VALVE REPLACEMENT: AN INVASIVE HEMODYNAMIC STUDY

Oral Contributions
West, Room 2010
Sunday, March 10, 2013, 11:15 a.m.-11:30 a.m.

Session Title: Valvular Heart Disease: Prognostic Features and Technical Advances to Optimize TAVR Outcomes
Abstract Category: 32. Valvular Heart Disease: Therapy
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Authors: *Crochan John O'Sullivan, Stefan Stortecky, Dik Heg, Thomas Pilgrim, Thomas Zanchin, Nicola Hosek, Steffen Gloekler, Bernhard Meier, Stephan Windecker, Peter Wenaweser, Bern University Hospital, Bern, Switzerland*

Background: We compared clinical outcomes among patients with low flow, low gradient, severe aortic stenosis (AS) and either preserved (LN AS) or low (LL AS) ejection fraction (EF) to patients with high gradient, severe AS (HG AS) undergoing transcatheter aortic valve replacement (TAVR).

Methods: 555 consecutive patients underwent TAVR at our institution between August 2007 and August 2012 and of these, 385 underwent preprocedural right and left heart catheterization with aortic valve crossing for assessment of severe native valve AS. 208 patients had HG AS (mean gradient [MG] ≥ 40mmHg), 85 had LN AS (MG<40mmHg, indexed aortic valve area [iAVA] ≤0.6cm2.m-2, stroke volume index [SVI] ≤35ml/m2, EF≥50%) and 68 patients had LL AS (MG<40mmHg, iAVA ≤0.6cm2.m-2, SVI≤35ml/m2, EF<50%). All-cause mortality, cardiac death and major adverse cardiac events (MACE; all cause death, major stroke or myocardial infarction) were assessed at 30 days and 1 year.

Results: Mean age was 82.5 years with a slight majority of female patients (57%). Mean Logistic EuroSCORE and STS score was 23.6% and 7%, respectively. At 30 days, no significant differences in all-cause mortality (HG AS: 8.4% vs LN AS: 6.1% vs LL AS: 5.9%, p=0.83), cardiac death (6.5% vs 4.9% vs 5.9%, p=0.94), MACE (10.2% vs 6.1% vs 8.9%, p=0.61) or the Valve Academic Research Consortium safety endpoint (25% vs 17.6% vs 29.4%, p=0.23) were seen. Compared to patients with HG AS, those with LL AS had a significantly higher rate of cardiac death at 1 year (HG AS: 8.6% vs LL AS: 21.5%, p=0.03). Moreover, among patients with LL AS, 92.3% of deaths were cardiac, as compared with 57.1% and 51.61% of patients with LN AS and HG AS, respectively (p=0.04). No significant differences in cardiac death were observed between patients with HG AS and LN AS at 1 year (8.6% vs 12.3%, p=0.61). All-cause mortality was similar between all groups at 1 year follow-up (17.6%, vs 20.5%, vs 23.2%, p=0.77) as were MACE (21.5%, vs 20.5%, vs 24.4%, p=0.85).

Conclusions: Despite favourable 30-day outcomes, LL AS patients undergoing TAVR are at high risk of cardiac death at 1 year follow-up. Therapeutic strategies aimed at reducing cardiovascular mortality among this subgroup should be identified.